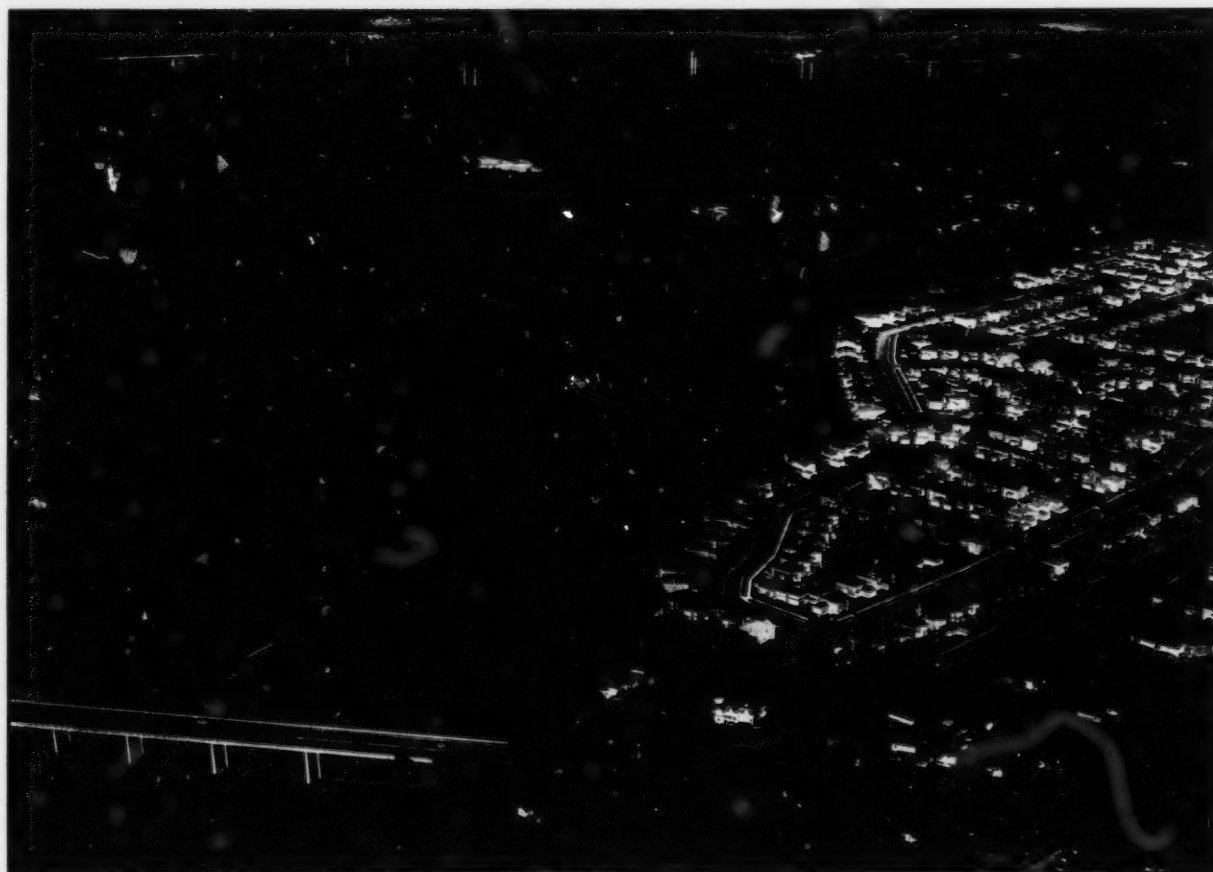


OVERVIEW

**OPTIONS FOR A
GREATER TORONTO AREA
GREENLANDS STRATEGY
1990**



**Ron Kanter, M.P.P.
St. Andrew - St. Patrick**

91-03260/

OVERVIEW

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GREATER TORONTO AREA GREENLANDS

CONTENTS

	Page
Introduction	1
Why a GTA Greenlands Strategy?	3
Defining Greenlands	4
Study Overview	4
A Proposed GTA Greenlands System	8
Managing Greenlands	17
Options for Securing Greenlands	18
Institutional Arrangements	22
Role of the Public	22
Conclusions and Recommendations	23

Greater Toronto Area



INTRODUCTION

The Greater Toronto Area, comprising Metropolitan Toronto and the Regional Municipalities of Halton, Peel, York and Durham has experienced a period of sustained economic growth which is unparalleled. As a result of this prosperity the GTA has acted like a magnet drawing people from across the Province and the world making it the most populated area in Ontario.

The GTA is not only considered the economic engine of the Province, it is also recognized as one of the most livable areas in North America. The high standard of arts, culture, sports, community and health care facilities and education opportunities are evidence of the high quality of life the citizens of this area enjoy.

In addition to being an economic and cultural focal point of the Province, the GTA is also recognized for its environmental diversity. Within the boundaries of the GTA are such environmentally significant features as the Niagara Escarpment, the Oak Ridges Moraine and the Lake Ontario shoreline. Moreover, the area houses a host of significant wetlands, river valleys and natural areas and more than 21% of the area's land base is forest covered.

These features make the GTA an attractive place to live and work for many people. Currently, the GTA is

home to approximately 40% of Ontario's population. Its growth will not only continue but is expected to escalate at an even faster rate in the future. Recent forecasts predict that 5.4 million people will live in the GTA by the year 2011. This represents an increase of almost 50% over the 1986 population base.

While the vitality of the GTA is linked to its economic prosperity through growth, it is also linked to the type of environment that is provided for its people. To ensure that the GTA continues to be an attractive, livable area, a balance must be struck between its built environment and its natural environment.

It was in this light that on October 17, 1989 Premier David Peterson asked Ron Kanter, M.P.P. St. Andrew-St. Patrick, to conduct a study and recommend options for a Greenlands Strategy for the Greater Toronto Area.

Specifically, the study was established to:

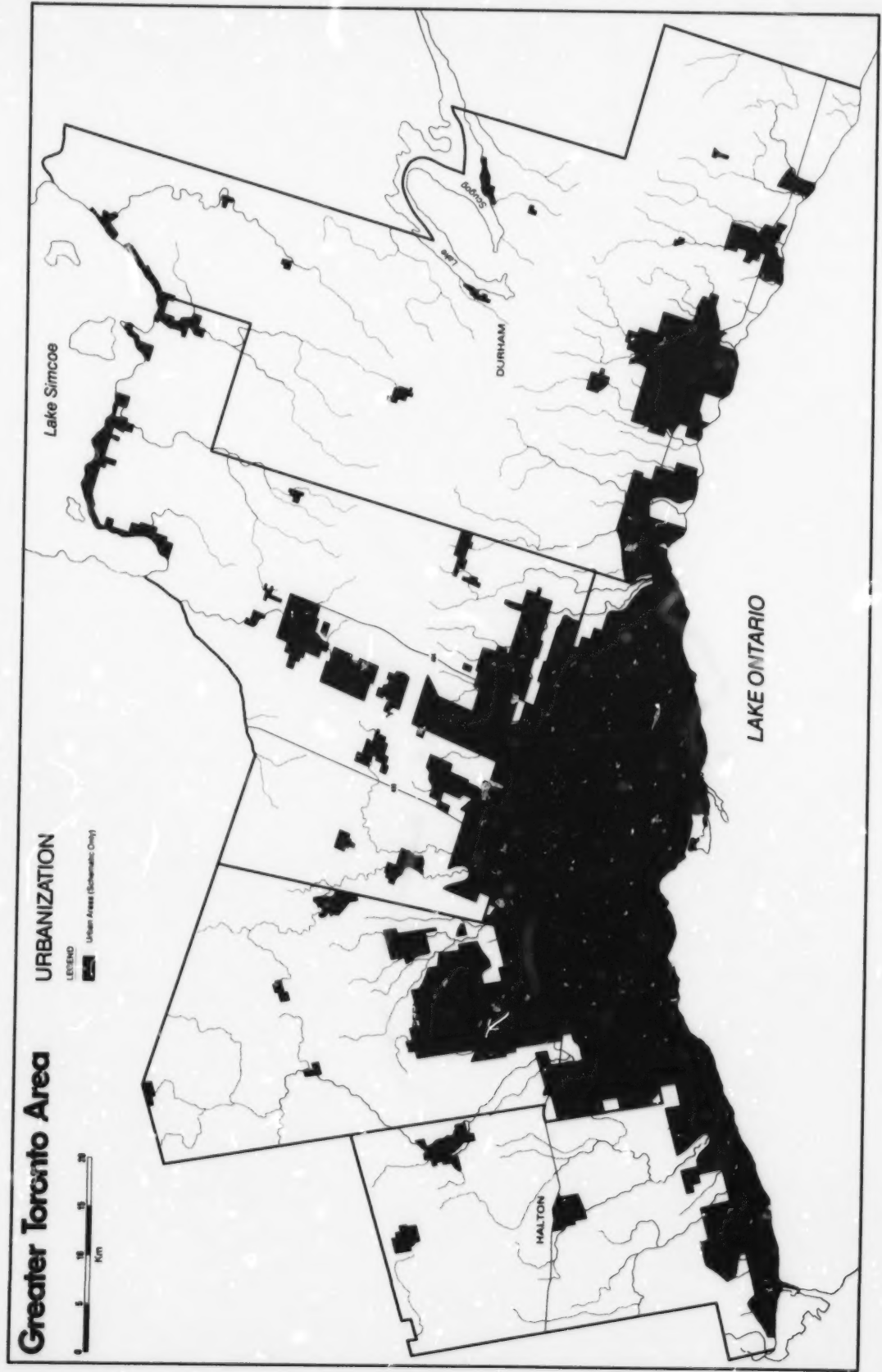
- identify areas to be included in a regional greenlands system;
- examine methods to secure greenlands; and
- examine possible institutional arrangements to help implement the strategy.



Greater Toronto Area



URBANIZATION



WHY A GTA GREENLANDS STRATEGY?

It is inevitable that the GTA will continue to grow. Given present trends this growth will continue to occur in all five regional municipalities of the GTA and in particular the Regions surrounding Metropolitan Toronto. While growth can bring prosperity, it can also create strains on transportation, sewer and water supply systems, housing supplies, solid waste management facilities and education and social services.

Growth can also place pressure on the resource base of an area--threatening wetlands, forested areas, rural land and environmentally significant features. These strains are being experienced, and are anticipated to continue, in all areas of the GTA.

Because the growth and its associated pressures are occurring across the entire GTA, any potential solutions must also take a GTA-wide perspective. Taking a GTA approach is particularly appropriate for green spaces because natural features do not recognize administrative boundaries.

Presently, there is no single overall, coordinated approach for dealing with such areas. There are a number of government bodies and agencies which have an interest in open spaces and natural areas; each with different mandates and priorities.

Other jurisdictions within Canada, the United States and Britain which are experiencing a rate of urbanization similar to our own have struggled to successfully find the

balance between built and natural environments. These efforts have resulted in a mix of successes and failures. While many ideas are interesting and may have some applicability to the GTA, there is no one solution which could be successfully transferred to the GTA. Any realistic strategy would have to recognize the GTA's unique characteristics and pressures.

A greenlands strategy for the GTA would offer several important advantages, including:

- providing clear direction and one central focus;
- addressing the pressures on greenlands associated with rapid urbanization which is occurring across all Regions and thus taking a broader perspective than individual efforts of the past;
- helping to guide decisions regarding the allocation of efforts and resources by identifying significant areas across the entire area and how individual sites relate to the overall strategy;
- providing the information required so that significant open space and natural areas can be incorporated upfront in the planning and development process; and
- providing a common, consistent starting point for all interests - governments, developers, interest groups and residents - and indicating the areas of priority and where proposals for development would be subject to the greatest scrutiny.

DEFINING GREENLANDS

"Greenlands" have traditionally been viewed primarily as public recreation parks. In recent years, however, a fundamental shift in thinking has been occurring. People are starting to consider greenlands as significant with respect to their own personal health and enjoyment as well as to the overall health of the environment. The importance of natural ecosystems, significant wildlife habitats, forested areas and major physiographic features is an emerging public value.

Many open space and natural areas serve as vital agents, ensuring the integrity and continuing existence of a balanced ecosystem. Such areas can help provide us with clean air and water and preserve the diversity of plant and wildlife habitat. Wetlands, for example, can help improve water quality by filtering out certain impurities. Forested areas can perform a similar function with respect to air quality. Also, valley systems and forested areas can serve as "natural air conditioners" during hot, summer days.

Many open space areas present an opportunity to improve the physical health of individuals through such activities as walking, jogging, fishing, and horseback riding.

Experiencing a natural setting can also contribute to a person's mental well-being. A highly urbanized area such as the GTA can cause personal stress from time pressures, crowds, lack of privacy and demanding jobs. Natural areas, by way of the contrast they provide to an urban environment, can perform a therapeutic role and may help relieve everyday tension.



STUDY OVERVIEW

The study was completed within a seven-month time frame.

The study concentrated on areas which could be included as part of a major regional greenlands system and, as a result, local municipal parks and open spaces were not specifically examined. Local areas do, however, have a role to play by feeding into the regional greenlands system.

During the course of the study, meetings were held with representatives from a number of provincial ministries, as well as officials from regional municipalities, various local municipalities, conservation authorities and several interest groups.

In December of 1989 an initial orientation workshop was held with members of various government bodies, interest groups, academics and professionals among the participants.

Community associations, interest groups, residents, public bodies and municipalities were also asked to send in comments relating to greenlands and their protection.

As well, contacts were made throughout Canada, the United States and Britain to gather information on what other jurisdictions have done to protect open space and natural areas.

In carrying out this study, continuous contact was maintained with two key related exercises. First, the Greater Toronto Coordinating Committee produced a study which examines the implications of different development scenarios for the GTA. It looked at factors such as population and employment projections to analyze their impact on such necessities as sewer and water supply, solid waste management and transportation. Consideration of green spaces was also included in this Urban Structure Concepts Study.

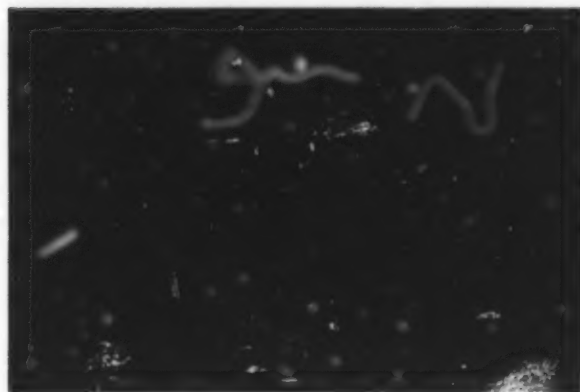
The other relevant initiative is the work of the Royal Commission on the Future of the Toronto Waterfront headed by the Honourable David Crombie. In part, this study is specifically looking at green spaces along the waterfront.

In addition to contributing to personal health, greenlands can also affect the "quality of life" in an area. Access to natural areas allows for a more back-to-the-basics approach to recreation and allows people to periodically escape hectic city life. Greenlands can also be used as an education tool, giving children the chance to experience and come to understand nature in their own area.

Nature is important to the elderly as well as to children. Older residents often have more leisure time and are able to enjoy the benefits of natural areas and open spaces. They are frequent users of open space in the GTA and as the population ages over the next few decades, there will be a significant increase in the number of residents over the age of 55.

Recognizing the change in thinking regarding "greenlands" and the contribution they can make to an individual's health, quality of life, and the environment in which they live, for the purpose of this study, "greenlands" were defined to include:

- natural, cultural or archaeologically significant areas;
- areas performing important natural functions such as water recharge and discharge or habitat links; and
- green corridors or open space areas for walking, jogging, hiking, cycling, or cross country skiing.



While the study examined the Greater Toronto Area in general, it specifically concentrated on the Oak Ridges Moraine, river valleys and watercourses flowing into Lake Ontario and Lake Simcoe, and the tablelands between the valley systems.

Special attention was paid to the Oak Ridges Moraine because of its importance as a water recharge (infiltration) and discharge (headwater) area. As well, of all the natural features within the GTA, the Oak Ridges Moraine requires the most attention at this time.

The study did not specifically look at the Lake Ontario waterfront or the Niagara Escarpment as these are initiatives under the auspices of the Honourable David Crombie's Royal Commission and the Niagara Escarpment Commission respectively.

While the study was aware of water quality concerns, the issue was not specifically addressed. Initiatives such as the Metropolitan Toronto Remedial Action Plan (RAP) are, at present, dealing primarily with water quality. It is recognized that water quality issues cannot be divorced from land use issues. This study reviewed the work being done on water quality and has attempted to ensure that initiatives are complementary.

Oak Ridges Moraine Area

Worthy of special mention is the Oak Ridges Moraine. It is one of the most prominent physiographic features in southern Ontario. It also performs an important hydrogeologic function, serving as a groundwater recharge (infiltration) and discharge (headwater) area.

Over the years, the Oak Ridges Moraine has been defined differently from various perspectives (e.g. physiographic, geologic). This study defined an area of interest—the Oak Ridges Moraine Area — which includes the Moraine proper, plus the north and south slopes on which are located the source of many watercourses.

In total the Moraine stretches 160 km (100 mi) in length from the Niagara Escarpment to the Trent River. Within the GTA, the Moraine Area extends some 90 km (56 mi), encompassing parts of the Regions of Peel, York and Durham.

The terrain of the Moraine Area varies, but many portions are characterized by a hummocky or hilly appearance. It is this rolling landscape which many people associate as being the Moraine. The Oak Ridges Moraine Area is also dotted with a number of kettle lakes such as Lake Wilcox and Musselman Lake. These are also the product of glaciation. The Oak Ridges Moraine is the divide (height of land) between watercourses flowing north and south.

In general, the slopes of the Moraine are considered to be the source area for many streams and contain many small wetlands. However, the Moraine itself is largely devoid of streams. Some of the small wetlands which create the headwater streams exist due to groundwater discharges in that location. Individually they may appear insignificant, but considered collectively, they are the origins of over 30 major watercourses or major tributaries within the GTA.

For the most part, the surface of the Moraine is a mixture of sand, gravel and clay. The soils are well drained and contain little organic material.

The rapid infiltration of water through the Moraine soils is key in feeding a system of underground aquifers (underground water sources). A number of municipalities such as Caledon East, Inglewood, Mono Mills, Palgrave, King City, Uxbridge, Stouffville, Aurora, Newmarket, and Oak Ridges depend on groundwater supplies from the Moraine Area. Also, local farm operations depend on the aquifers for their water needs.

While many people are generally aware of the existence of the Moraine, the true significance of the area is not well known. As a result, approaches to controlling and managing development on the Moraine vary.

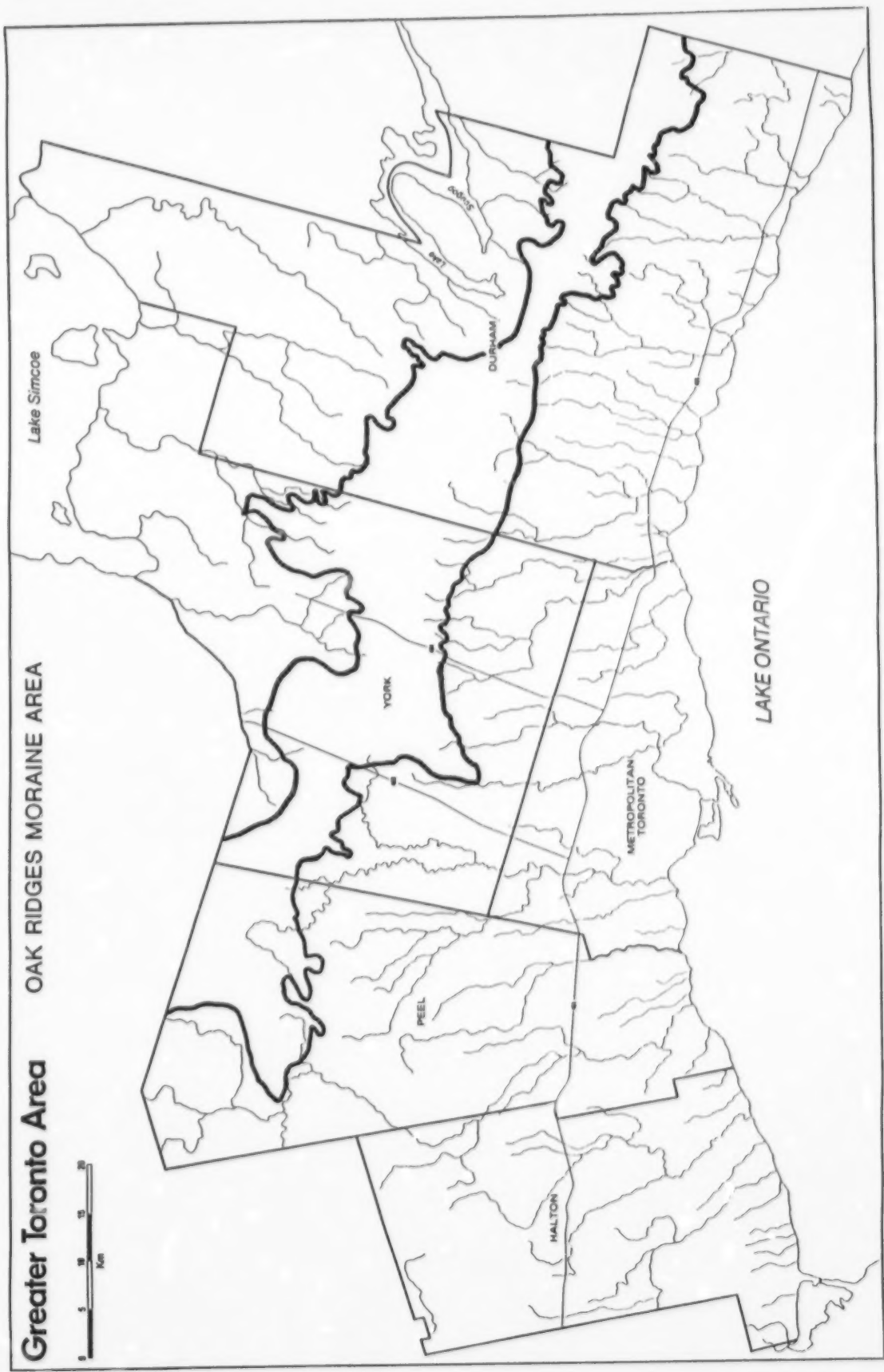
Within the GTA, the Oak Ridges Moraine Area crosses 3 Regions and 14 local municipalities.

A fundamental shortcoming of most of the Official Plans, with the possible exception of the Durham and Vaughan Plans, is the lack of either a geographic or comprehensive written definition of the Moraine. Policies do not exist to address the long term treatment of the Moraine.

There is a wide variation in land use designations for the Moraine Area at the regional and local municipal level and treatment is not consistent.



Without one definition of the Oak Ridges Moraine and the lack of one set of clearly defined objectives and one implementing strategy, it will be difficult to see the significance and sensitivity of the Oak Ridges Moraine Area appropriately taken into account in the land use planning and development process.



A PROPOSED GTA GREENLANDS SYSTEM

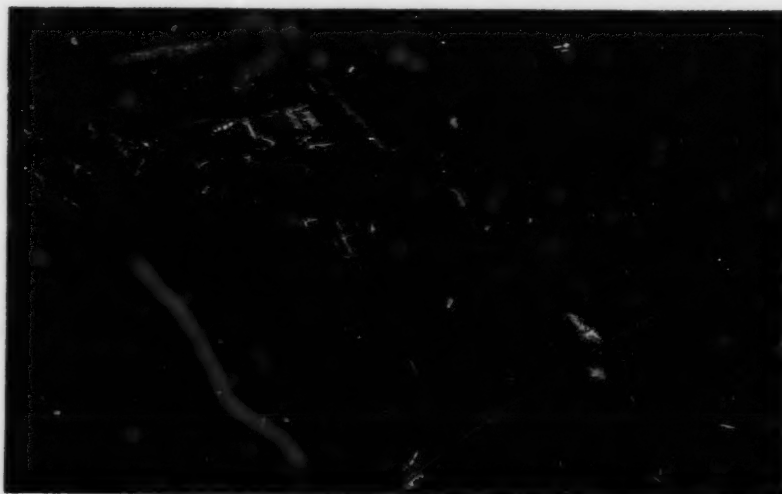
The Greater Toronto Area is home to almost 4 million people. It also contains a wide variety of natural features and boasts many examples of the rich archaeological and cultural history of the area.

Recognizing that there is only one land base to serve a variety of uses, it must always be remembered that land is only in an undeveloped, natural state once. Once developed, it is only redeveloped in the future and is seldom returned to a natural state.

It is unrealistic to require all undeveloped land within the GTA be left that way; however making a concerted effort to keep key significant natural areas is both realistic and desirable. As a result, a system is proposed which includes all regionally significant greenlands in the GTA.

The proposed GTA Greenlands System includes the features described in the following sections. Many of the lands are areas which have been identified by provincial ministries, agencies, conservation authorities and regional municipalities as being of particular biological, geological or hydrological significance or sensitivity.

A total of 975 individual greenland areas/features have been identified. However, an ecosystem-based approach should make every effort to link and connect these individual areas.



NUMBER OF GREENLAND FEATURES/AREAS IN GREATER TORONTO AREA BY MUNICIPALITY

GREENLAND ELEMENT	MUNICIPALITY					GTA TOTAL
	PEEL	HALTON	YORK	METRO TORONTO	DURHAM	
Provincially Significant Life Science ANSIs	6	11	9	4	10	40
Provincially Significant Earth Science ANSIs	8	8	6	3	4	29
Regionally Significant Life Science ANSIs	10	11	15	7	4	42
Total ANSIs	24	30	30	14	18	111
Provincially Significant (Class 1 + 2) Wetlands	5	10	7	1	20	43
Regionally Significant (Class 3) Wetlands	6	6	6	2	12	32
Locally Significant (Class 4 to 7) Wetlands	21	82	37	2	49	192
Total Wetlands	32	98	50	5	81	267
Coldwater Streams	4	11	10	0	21	36
Warmwater Streams	3	3	14	3	8	31
Migratory Streams	1	4	0	1	9	15
Total Streams	8	18	24	4	38	82
ESAs	48	39	64	50	82	283
Provincial Parks	1	1	2	0	1	5
Other MNR (Crown) Lands	0	4	2	0	6	12
Conservation Areas	7	11	20	1	17	56
Other Cons. Auth. Lands	32	25	20	24	16	117
Regional Forests	0	9	18	0	1	28
TOTAL	152	235	230	98	260	975

Areas of Natural and Scientific Interest (ANSIs)

ANSIs are defined by the Ministry of Natural Resources as "areas of land and water containing natural landscapes or features which have been identified as having values related to protection, natural heritage appreciation, scientific study or education". ANSIs are subdivided into those of earth science significance and those of life science significance.

Earth science ANSIs are selected to illustrate outstanding examples of rock types, fossil localities, and landform associations. Earth science ANSIs of provincial significance are included in this proposed Greenlands System. Earth Science ANSIs of regional or local significance are less precisely defined and therefore are not included.

Life science ANSIs are selected to illustrate representative and outstanding landscapes, environments and biotic communities. Life science ANSIs of both provincial and regional significance are included in the Greenlands System.

Wetlands

Wetlands are defined by Ministry of Natural Resources as "lands that are seasonally, or permanently covered by shallow water, as well as lands where the water table is close to or at the surface; in either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants. The four major categories of wetlands are swamps, marshes, bogs and fens."



Wetlands are ranked into seven classes based on one standard evaluation system. In 1989, the Minister of Natural Resources and the Minister of Municipal Affairs jointly released a draft wetlands policy statement under the Planning Act. The proposed policy statement identifies Classes I and II wetlands as being provincially signifi-

cant, Class III as regionally significant and Classes IV to VII as locally significant.

In the GTA, many wetlands have been lost over time and much of the remainder continue to be subject to intense pressure as a result of increased urbanization.

All wetlands in the GTA have been included in the proposed Greenlands System.

Environmentally Significant/Sensitive Areas (ESAs)

ESAs are generally defined as "natural landscapes, including those lands and waters of inherent biological sensitivity, such as those areas containing aquifer recharges, headwaters, unusual plants, wildlife or landforms, breeding or overwintering habitats, vital ecological functions, rare or endangered species or other combinations of habitat and landform which could be valuable for scientific research or conservation education".

ESAs are identified through studies generally conducted by conservation authorities; one regional municipality, Halton, has also undertaken an ESA study.

Some ESAs have also been identified by Ministry of Natural Resources as important ANSIs or wetlands. This helps to reinforce the significance of such areas.

ESAs are included in the proposed Greenlands System.

Significant Fishery Streams

Watercourses can be categorized as cold water, warm water and migratory. Cold water streams are those with summer maximum temperatures of less than 21 degrees Celsius and capable of supporting salmonids (e.g. brown and brook trout). Warm water streams are those with summer maximums that exceed 21 degrees Celsius and thus are too warm to support trout populations. Migratory streams support or have the potential to support, self-sustaining lake runs of salmon and rainbow trout.



Streams within the GTA have been classified by the Ministry of Natural Resources with respect to their fisheries significance.

Significant cold water, warm water and migratory streams have been included in the Greenlands System.

Significant Cultural and Archaeological Areas

For this study, the Ministry of Culture and Communications' definition of features of significant cultural and archaeological interest has been used. Significant sites are those "works of man" and the effect of human activities on the environment which exhibit one or more heritage attributes associated with historical, architectural or archaeological significance.

The heritage attributes used to determine significance include representativeness, uniqueness, scarcity, outstanding example, high quality, high diversity and scientific or educational value.

This study did not focus on specific buildings or structures, but rather looked at general areas. However, in certain situations, individual buildings have been grouped together such as at the Black Creek Pioneer Village. The village is considered to be a Metropolitan Toronto area tourist attraction catering to thousands of visitors each year. Also, Black Creek Pioneer Village serves to provide an educational experience for numerous school children.

It is difficult to identify actual areas of archaeological significance as part of a greenlands system, mainly because of the smallness of size. Also there is a need to protect the actual location of such areas due to their sensitivity to disturbance.

Many sites of archaeological significance have been found within or immediately adjacent to river valleys, lakes or wetlands. This is logical since water historically has been a key resource for drinking, transportation, commerce and recreation.

Cultural and archaeological areas of significance are considered to be greenlands in this study.

Valley Systems

Within the GTA, the river valleys are the backbone of a regional greenlands system. There are approximately 65 valley systems in the GTA with outlets draining into Lake Ontario, Lake Simcoe or Lake Scugog. They often represent the largest tracts of undeveloped, natural spaces. Valleys provide continuous corridors for the movement of wildlife and the watercourses can accommodate the migration of fish. Larger valley systems can also provide for cycling, hiking, or cross country skiing.

In light of this, and considering the extent of urbanization within the GTA, all valley systems are considered as significant and thus have been included in the proposed regional Greenlands System.

Regional Trail System

There is no comprehensive regional trail system in the GTA. The most notable trail system is the Bruce Trail along the Niagara Escarpment. Just outside of the GTA to the east is the Ganaraska Trail, another major trail system in the area. The Great Pine Ridge Trail, while often difficult to determine, is said to have been developed by equestrians, stretching the length of the Oak Ridges Moraine. In addition, there are various minor trails running through conservation areas or along portions of valleys.

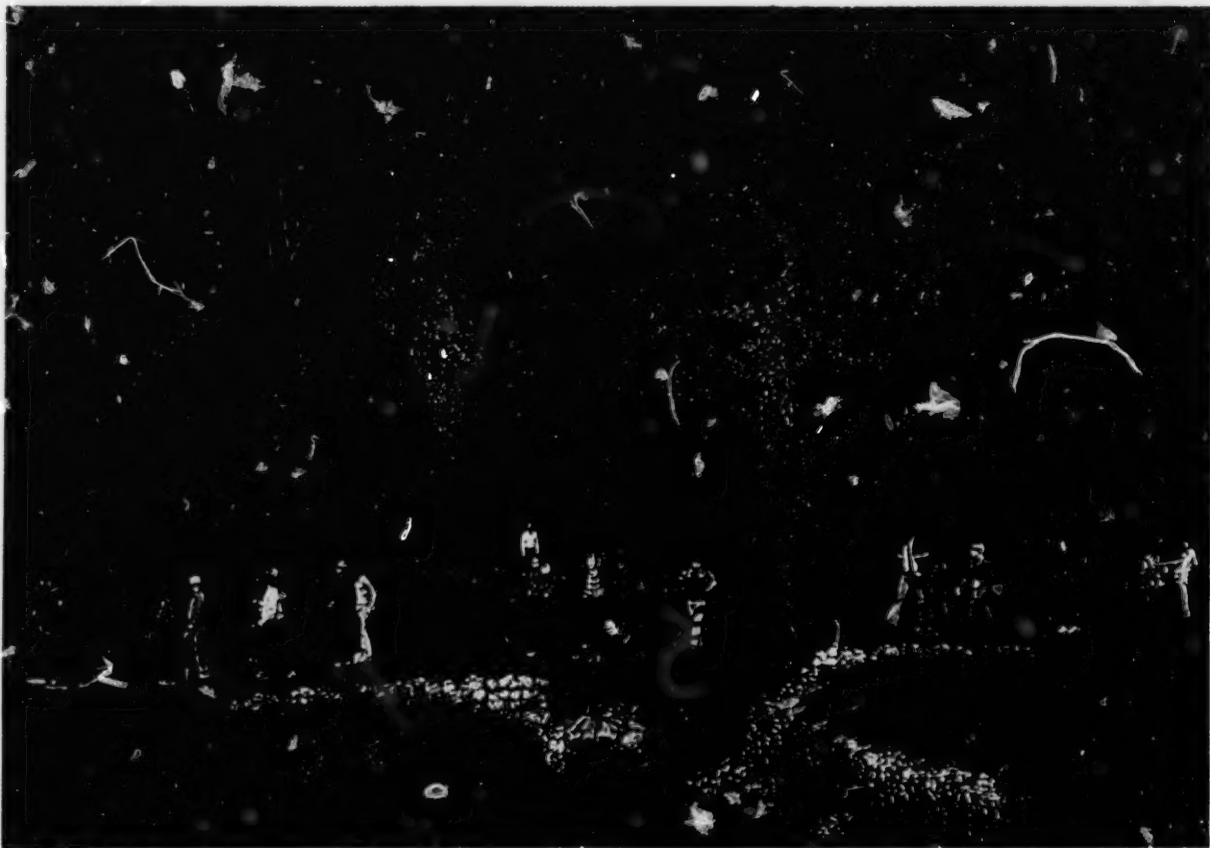
A series of regional trail systems would not only provide high quality hiking, cycling and cross-country skiing experiences but would also serve to connect the major physiographic features of the GTA - the Niagara Escarpment, the Oak Ridges Moraine, the river valleys and the Lake Ontario and Lake Simcoe shorelines. A regional trails system should be established to include:

- the Bruce Trail;
- an Oak Ridges Moraine Trail;
- connections to the Ganaraska Trail; and
- trails within or adjacent to the 16 major river valleys within the GTA:
 - Grindstone Creek
 - Bronte Creek
 - Sixteen Mile Creek
 - Credit River
 - Humber River
 - Don River
 - Rouge River
 - Duffin Creek
 - Lynde Creek
 - Oshawa Creek
 - Bowmanville/Soper Creek
 - Wilmont Creek
 - Holland/Schomberg River
 - Black Creek
 - Pefferlaw Brook
 - Beaverton River

All trail systems and in particular the Oak Ridges Moraine Trail should, to the extent possible, run through or adjacent to tree covered areas. In some locations tree planting may be required. This would not only provide for a more enjoyable experience for the user but would also assist in protecting vegetated corridors for the movement of wildlife.

A key to the Greenlands System is continuity and linkages. Efforts should be made to connect the major river valleys. Ideally, connecting links should be 'green'.

They can include local parks or greenways, utility corridors, road right of ways, or abandoned rail lines. While local parks are not included in the Greenlands System, they should be linked up to the GTA regional greenlands and trail systems wherever possible. In more built up areas, it may not be possible to always provide a green link. Residential streets may then be required to make the connection.

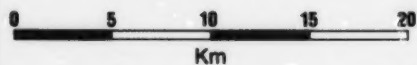


Greater Toronto Area

GREENLANDS

LEGEND

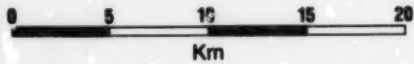
- Greenland
- Oak Ridges Moraine Area
- Niagara Escarpment





Greater Toronto Area

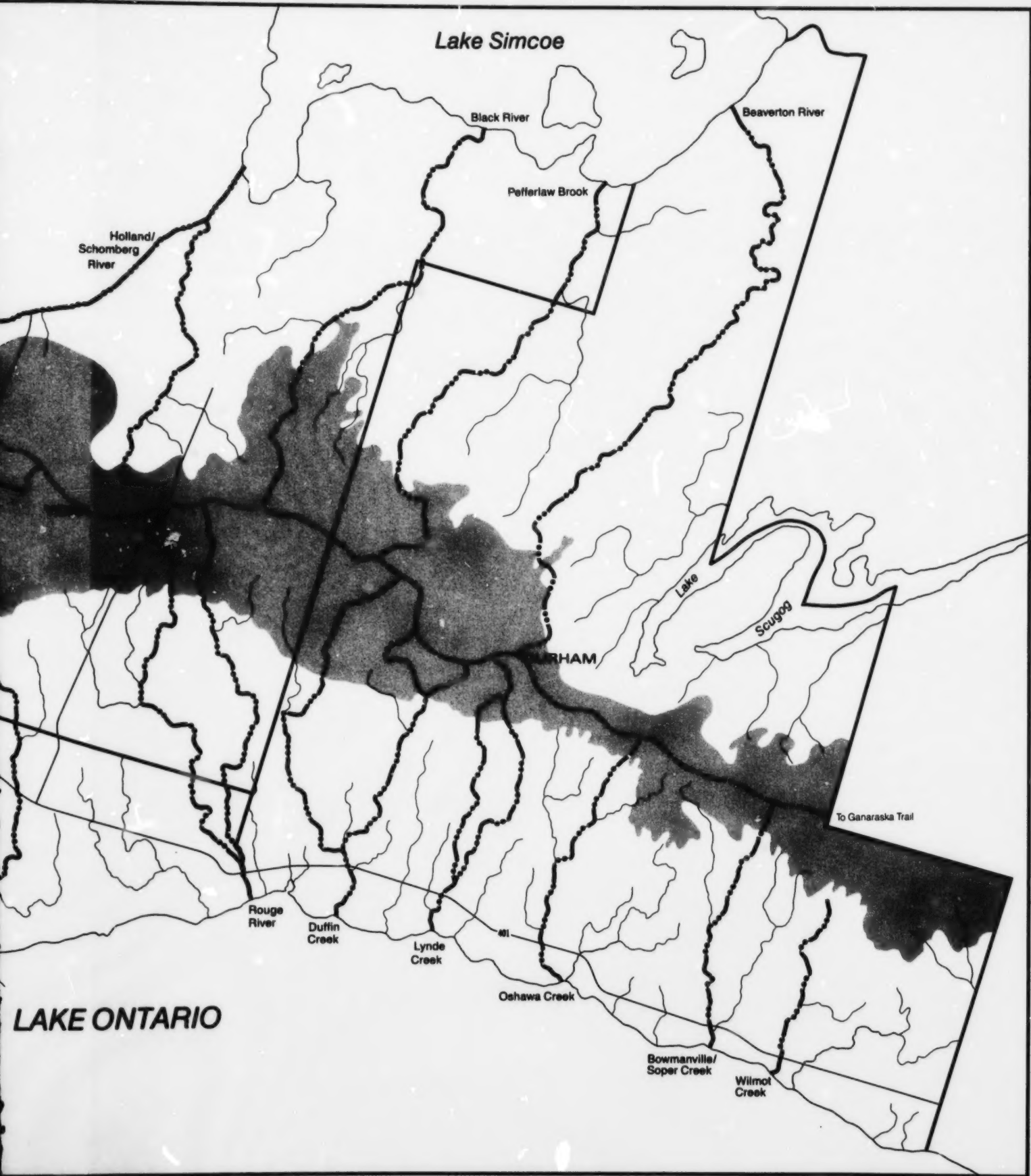
TRAIL SYSTEMS (Schematic Only)



LEGEND

- Bruce Trail
- Oak Ridges Moraine Trail
- Valley Trails
- Oak Ridges Moraine Area
- Niagara Escarpment





MANAGING GREENLANDS

Once the importance of a particular greenland is established the question becomes one of how best to "manage" the area over time.

Terms such as protection, preservation, conservation, rehabilitation and enhancement are often used to describe the treatment of greenlands - but what do they mean?

For example, it is frequently heard that a certain greenland should be preserved. But what is actually being requested? The natural environment changes over time. So, if the request is to maintain the greenland as it presently exists, then active management of the area would probably be required. Actions such as opening up the canopy of a forested area, removing competing species or conducting controlled burns to renew prairie type communities may be carried out. If, on the other hand, preserve means leave alone, then the greenland of tomorrow may be different from the greenland of today.

Greenlands provide a variety of functions and serve an array of uses. As such, it is not the intent of this report, nor can it be, to propose one approach or recommend one treatment for managing greenlands. However, when terms such as protect, preserve, conserve, rehabilitate or enhance are used, it must be made clear as to exactly what is being said.

The questions to be asked are: "what purpose is the greenland to serve", and then, in achieving that purpose, "what action, if any, is required now and over time."

Ecosystem Approach

It is sometimes said that the flow of water does not recognize man made boundaries or that wildlife movement is governed by habitat limits not municipal limits or even that the continued urbanization and the movement of people within the GTA constantly cross municipal boundaries. All are part of something bigger and the same is true for greenlands.

Greenlands should not be managed solely on the basis of their defined limits but should be viewed within an overall ecosystem context.

An ecosystem is the system formed by the interaction of all living things with one another and with their habitat. It is understanding and managing the processes, relationships and interactions of air, water, soil, plants, animals and man within an area. For example, a particular section of valley may be significant because it contains rare or unusual vegetation. However, the entire valley system may be significant for the role it performs for the movement of wildlife. Also, a wetland may be considered "high quality" and thus important but the same wetland may be vital as a staging or nesting area for migratory water fowl.

To the extent possible, individual greenlands should be linked together through the establishment of green corridors. That is not to say that individual, isolated greenlands should not be secured and managed accordingly. But where the opportunity exists to manage greenlands in a larger context, it should be taken.

OPTIONS FOR SECURING GREENLANDS

There is a wide range of methods available to protect greenlands. To some, the obvious way is to buy the significant land. However, if the area is important because of a particular function it performs such as water infiltration or groundwater recharge, as long as that function is allowed to continue, the land does not have to be publicly owned.

Because this study looked at the purchase of significant greenlands as only one way to protect such areas, the term "securing" is used rather than the more commonly used "acquiring". Other methods of protecting greenlands were also explored, including land use planning and controls over development as well as land stewardship, trusts and incentives.

Of foremost importance, the opportunity exists for the Province to show clear direction by establishing one, overall greenlands strategy for the GTA.

The following options for inclusion in a greenlands strategy were explored:

Land Use Planning

Land use planning in Ontario is performed at three levels - by local municipalities, regional municipalities and the Province.

Local Municipal

The main tools available to local municipalities to secure greenlands through the planning process are Official Plans, zoning by-laws, plans of subdivision and severance approvals, site plan control by-laws, interim control by-laws, holding by-laws, increased density by-laws, etc.

There are options available to local municipalities which could be looked at further.

Under the Planning Act, when residential development is being proposed, the municipality may require dedication of 5% of the land for park or other public recreational purposes. In the case of commercial and industrial development, 2% of the land may be required. Alternatively in both cases, cash in lieu of land may be requested.

One option is that 1 to 2% of the land, above the traditional park dedication, could be requested specifically for greenlands as opposed to parks. Alternatively, where valley lands are involved, municipalities could formally be given the ability to request dedication of such lands in addition to the usual park dedication.

Another option to help secure greenlands is for municipalities to have greater control over site preparation. This includes the removal of existing vegetation, stockpiling

of top soil and grading. It is not dealt with now under the Planning Act largely because these activities do not fall within the definition of "development".

At present, sites can be prepared for development long before all the necessary planning approvals are obtained. This can leave sites exposed and subject to runoff and erosion. As well, significant attributes of the site can be permanently lost.

To address this issue, the Planning Act could be amended so that site preparation could not proceed until approval of the draft plan of subdivision was received or the site plans under a site plan control by-law approved. An erosion and sediment control plan would also have to be approved prior to site preparation proceeding.

Regional Municipal

Many have expressed the opinion that a higher order, more comprehensive approach to land use planning which looks at cumulative effect is desirable.

The option exists for the regional Official Plans to establish development, greenland, and rural envelopes. Development envelopes could be broken down into urban and near urban. Under this scenario, the Official Plan would clearly delineate the limits of each envelope and would generally describe the types of land use permitted in each envelope. However, the local municipality, through its Official Plan would be responsible for specific land use designation within each envelope. The limits of the envelopes could not be modified for at least five years and then only as part of an overall review of the regional Official Plan.

In proposing such envelopes, the Region would undertake necessary background and support studies. The cumulative effect of each envelope would be assessed. The envelopes would be subject to public review and, once approved, would form the essence of the regional Official Plan.

Another alternative for helping to secure greenlands is to clearly establish a leading role for the regional municipalities in the implementation of a greenlands strategy. In this regard, each regional municipality would prepare a "greenlands action plan". The plan would fine-tune the respective components of a greenlands strategy, including the work of the Crombie Royal Commission on the Waterfront. The action plan also would incorporate information from local conservation authorities and local municipalities. As well, the plan would serve to link local park systems to a regional greenlands system through pathways and connectors.

Provincial

The Province has a number of tools that could be applied to securing greenlands.

It could sponsor studies and prepare appropriate guidelines geared at increasing the sensitivity of development to greenlands. Such guidelines could include information on urban drainage/storm water management, water conservation, and how to use existing land use planning tools to help secure greenlands.

The Province could prepare a GTA policy statement that would include regional greenlands identified through a greenlands strategy, including the work of the Crombie Royal Commission. As a policy statement, all Official Plans would "have regard to" it as provided for in the Planning Act.

Land preservation legislation is another option open to the Province. This would have the effect of preserving certain greenlands so that they could not be developed or activities could not occur that potentially threaten the greenlands. This should be viewed as a long term option due to the time requirements in having new legislation enacted.

As the Oak Ridges Moraine is the natural feature within the GTA requiring the most attention at this time, various options could be considered specific to that area.

The Province could declare a general expression of provincial interest under section (2) of the Planning Act for the Oak Ridges Moraine Area. This could be accompanied by a provincially coordinated study of the Moraine Area.

A declaration of provincial interest would formally express an overall interest in land use within the Moraine and would ensure that immediate action could be taken when necessary to protect the Moraine Area. Planning decisions made by the Ontario Municipal Board would not be final until approved by Cabinet.

As municipalities across the Oak Ridges Moraine are inconsistent in their treatment of the area's sensitivity, a comprehensive planning study could be conducted to review land uses and their impact on the Moraine and to prepare guidelines about how development should occur within the Moraine while being cognizant of the area's significance and sensitivity. The study would develop standardized criteria for the collection of information when proposing development. Using standardized assessments would assist in providing consistency from one municipality to the next and would enable long term monitoring to occur.

The Province could take this control measure a step further by bringing into force a Minister's Interim Control or Zoning Order for the Oak Ridges Moraine Area. In essence, this would freeze or limit development in the Moraine to provide time for a land use study.

A further alternative for the Oak Ridges Moraine Area is for the Province to prepare a detailed plan under the Ontario Planning and Development Act and design-

nate a public body to implement the plan. Two such examples are the Niagara Escarpment Plan and the Parkway Belt West Plan. This would be a very "hands on" approach by the Province in local land use planning but could take a great deal of time to put in place.

Development Permit System

A development permit system is a discretionary system which examines the specific conditions of a particular site and the details of what is being proposed. It is a system where development may or may not be permitted, depending on the results of the examination.

Development permit systems are not geared necessarily to just buildings and structures. Some also deal with the dumping of fill, the construction of other works or the taking of water.

One of the primary development permit systems in place for valleys are the Fill, Construction and Alterations to Waterways Regulations of the conservation authorities. These are technical, hazard-related regulations designed to allow valleys to safely perform their natural function of passing flood flows. There are two possible scenarios that could see such regulations strengthened--greater hazard related control and greater conservation related control.

At present, conservation authorities can regulate specific activities in specific portions of valleys only; for example, regulating the location of buildings and structures in flood plain portions only. Also, parts of activities can be regulated and others not; for example, the dumping of fill can be regulated but the removal of material is not.

To minimize confusion and strengthen the ability of conservation authorities to regulate development, amendments could be made to the Conservation Authorities Act so that control of buildings and structures anywhere in valleys and control of the removal of material as well as the dumping of fill was possible.

A second option is to make conservation authority regulations more conservation related. There is much public confusion about what a conservation authority can and cannot regulate. A conservation authority, for example, cannot turn down an application on the sole basis that it would destroy a natural area.

The term "conservation of land" is currently found in the Conservation Authority Act, but its interpretation is specific to erosion control. The option exists to expand the interpretation to also apply to the protection of natural features as well.

Another permit system currently in place is one dealing with the taking of water. Right now, a permit is

required from the Ministry of the Environment for taking of more than 50,000 litres of water a day.

The present system does not appear to take "cumulative effect" into account. It operates more on a first come, first served basis.

In light of increasing development pressure and thus, increases in demand for water, the option exists to expand the existing system to one that attempts to determine a water quantity inventory for a watercourse or an underground aquifer area and then determines that portion that may be used for water taking purposes and how best to distribute that amount of water. In essence, a "water budget" would be established.

Similarly, a permit approval system is in place for the review of individual applications for the installation of septic systems. In areas of rapidly draining soils, such as the Oak Ridges Moraine, standard systems may not be appropriate from a water quality perspective. The option exists to look at such areas more closely and to investigate alternative designs and materials for septic systems in this regard.

Acquisition

The majority of the regional greenlands identified in this study are privately owned. Most of the publicly owned lands are associated with river valleys, provincial parks, conservation areas and regional forests.

Buying all greenlands would obviously be financially prohibitive. Acquisition must be considered as one of an array of tools that could be used to secure greenlands. Situations will arise, however, where acquisition may be the only possible course of action. This would be true particularly where lands would be specifically required for extensive public use, e.g. trail systems.

Determining an appropriate level of funding for an acquisition program is difficult due to the variation in land values within the GTA and the proposed reliance on other tools to secure many of the greenlands. Based on past acquisition programs and actual purchases, a program in the order of \$100 million over 5 years is feasible. Such a program could be set up on a matching grant basis. The "local" half of the \$100 million would be raised by the private sector, local and special interest groups, municipalities, other public bodies, etc. The Province would contribute the other half of the funds.

Land Stewardship

The active involvement of citizens and interest groups in the protection of greenlands, also known as land stewardship, complements other tools such as land use planning and direct acquisition.

There are a number of techniques that could be explored for application in the GTA. These techniques include agreements, leases, conservation easements with private landowners as well as purchase/saleback, creative development approaches, conservation real estate, designation/dedication of areas.



Such techniques have had limited application in Ontario. Some of them, however, have been extensively applied in other jurisdictions such as Britain and the United States.

A second option to encourage private stewardship involves the establishment of a foundation or a land trust in the GTA. A foundation could be set up to oversee the implementation of a land stewardship program. While not necessarily involved in the actual implementation of specific activities, a foundation could provide a central focus and expertise for individuals involved in the more day to day aspects. It could work to raise public awareness of the value of greenlands, and encourage stewardship and local initiative. It could also administer a Greenlands Trust Fund for the GTA.

Under this option, a new Greenlands Foundation could be established or the role of the Ontario Heritage Foundation expanded with greater emphasis placed on natural heritage. As this would be a major undertaking, and given the current work load of the Ontario Heritage Foundation, establishing a new foundation may be deemed the more desirable approach.

Another option in this regard, is the establishment of a land trust for an area like the Oak Ridges Moraine. It could become actively involved in land stewardship or acquisition projects.

Smaller, community-based trusts could also be established throughout the GTA.

Tax incentives could also be improved, including property tax rebates, income tax deductions and the transfer of development rights from greenlands to urbanized areas to make it more desirable for private landowners to practise good land stewardship or donate lands.

Other Mechanisms

There are several other options that can be considered in securing or supporting greenlands.

Trees Act

The first is to make changes to the Trees Act to allow for more control over the cutting of trees. The Act allows upper tier municipalities to pass by-laws "restricting and regulating the destruction of trees".

To date, the Act has been applied for "forestry purposes" in the context of renewable wood production. However, the present wording of the Act does allow for a broader interpretation of that term.

In addition, certain changes to the Act would assist in providing greater control. Changes could be made to prevent tree cutting without the prior knowledge of the municipality, to provide the power to issue stop work orders in support of the enforcement of by-laws and to substantially increase fines and penalties.

There is always concern that by-laws under such an Act would control an individual cutting down a single tree. The Trees Act already contains a number of exceptions to address this.

Compact Urban Form/Clustering Development

Traditional development in the GTA is land extensive. This reduces the amount of land available for other uses and is difficult to support from the perspectives of water and sewer services and public transit.

More compact urban forms and clustering or grouping development could concentrate development in a smaller area, leaving more land in its natural state or available for other uses. Residents may very well be prepared to accept higher densities in exchange for immediate access to large, natural landscapes. All levels of government could investigate and promote such methods with the view to reducing the amount of land that is developed, as opposed to the amount of development.

Buffer Zones

Another option available to help maintain the natural integrity of valleys and watercourses and to visually separate such areas from adjacent development is to establish natural, riparian buffer zones. Ideally, such buffer zones should be a minimum of 10 - 15 m (33 - 50 ft) in width to be effective. There are several ways to promote the creation of riparian buffer zones that could be investigated, e.g. land use planning process, easements, acquisition, etc.

INSTITUTIONAL ARRANGEMENTS

Once a GTA Greenlands Strategy was prepared, consideration would have to be given to who will actually be responsible for implementation.

There are basically three options for institutional arrangements: the existing agencies and organizations to implement those aspects that fall within their respective mandates; create a new agency; or establish a coordinating body, without legislative authority, to oversee implementation.

In deciding which institutional arrangement is the most appropriate, a number of factors should be considered: there will be a need to monitor progress, over time, on a GTA wide basis; some institutional arrangements take considerably longer periods of time to set up than do others; is it feasible to establish another level of government or public body in an area like the GTA which already has a considerable number of them; and, successful implementation requires a clear indication of who is responsible for what.

ROLE OF THE PUBLIC

The protection of greenlands should be a responsibility of private and public groups, as well as a responsibility of government agencies. There are a number of ways by which the public can participate.

Many individuals and local groups do a great deal right now. At this point in time, there are a variety of groups interested in specific types or aspects of greenlands in the GTA. However, efforts could be made by groups with similar objectives to combine some of their resources which may result in stronger, less fragmented action.

Many organizations and special interest groups could increasingly join with government agencies in helping to

inform and educate people on the significance of greenlands and the roles they fulfil.

Individuals and groups could also make important contributions through more formal participation on advisory committees, such as Ecological and Environmental Advisory Committees (EEACs). Regional municipalities like Halton, Niagara and Waterloo currently have successful EEACs providing advice on Official Plan matters and undertaking research projects and education programs.

The formation of EEACs or similar support committees could be encouraged for all regional municipalities and various public agencies in the GTA to provide a greater opportunity for citizen participation in the decision-making process.

Numerous citizen based efforts have helped to rehabilitate or enhance our river systems, valleys and natural areas through tree planting, clean up and other programs. These creative programs which rely on the enthusiasm and participation of individuals should be supported and could be more actively encouraged.



CONCLUSIONS AND RECOMMENDATIONS

After examining the issues, challenges and options for securing greenlands, a number of conclusions and recommendations were reached.

CONCLUSIONS

(1) *Action*

While there is a need for action, there is an urgency for action now for certain areas, due largely to development pressures. Therefore, the deliverability or time required to implement a particular action should be a key consideration.

There is strong public support for a Greenlands Strategy, but there is also some scepticism, scepticism directed at all levels of government, regarding the "political will" to follow through on the actual implementation of a strategy.

(2) *Greenlands*

Greenlands are increasingly being considered as more than park and open space areas or serving just one end. The significance of greenlands in contributing to the quality of life, both mentally and physically, and to the quality of the environment in which we live, is starting to be understood.

Increasingly there is concern about the loss of greenlands without first the opportunity to explore ways that development and greenlands possibly could co-exist.

Also, there is the need for government sponsored greenlands management and land stewardship programs to be more widely ecologically based rather than largely based on economic yield.

(3) *Present Circumstance*

Within the Greater Toronto Area, there are a number of public bodies and groups involved in greenland protection or management. However, without a central focus, there is a wide variation in approaches resulting in

fragmentation, inconsistency and confusion. This is particularly true concerning the application of the Planning Act from one municipality to the next.

While some amendments are required, the Planning Act could be more effectively used to help protect greenlands. What is required is an increased consciousness at all levels, but in particular at the local and regional municipal levels.

Greenlands must be actively considered at all stages throughout the land use planning process. A better balance between lands to be left in a natural state and lands considered to be developable must be struck.

(4) *Oak Ridges Moraine Area*

Of the major natural features in the Greater Toronto Area - the river valleys, the Lake Ontario waterfront, the Oak Ridges Moraine Area, the Niagara Escarpment and Lake Simcoe, it is the Oak Ridges Moraine Area which requires the greatest attention at this time.

Within the GTA, the Moraine Area spans 3 regional and 14 local municipalities and 5 conservation authorities.

It is a significant and sensitive natural feature, particularly in relation to groundwater, the sensitivity of its soils to certain development and practices, and the significance of the slopes of the Moraine as a headwater area for many watercourses.

Based on what is known today, more specific attention must be paid to the Oak Ridges Moraine Area. But in addition, the full extent of the Moraine Area's significance and sensitivity should be determined through further study.

(5) *A More Regional Context*

Collectively, we must continue to re-orient our thinking so that long term implications, as well as short term, are considered.

The term "cumulative effect" is often used today. There is no one magical approach to addressing cumulative effect. It is as much a mind set as it is the development of techniques to measure it.

Growth and development within the GTA will continue. However, we must change our approach when considering greenlands in the context of land use changes. What is required is a true consideration of all the implications - not just those on a particular site but on the larger surrounding area and not just those of today but of the future as well.

Implications must be examined and trade-offs made in a broader context, both more regional and longer term, than in the past.

(6) *Overall Approach*

There are three complementary approaches to addressing greenlands within the Greater Toronto Area; regulation, stewardship and acquisition. Substantial progress can be made in a 3 - 5 year period, with a concerted effort. However, what more appropriately is required is a long term commitment over time, working towards one clearly defined end - the securing of a regional greenlands system.

RECOMMENDATIONS

- (1) The Province provide clear direction through the endorsement of a Greater Toronto Area Greenlands Strategy with the goal of improving the quality of life through the establishment of a regional greenlands system consisting of a variety of types of greenlands, accessible to as many people as possible, where appropriate.
- (2) To guide land use planning and development, appropriate ministries prepare guidelines addressing: (a) urban drainage/storm water management; (b) water conservation (including groundwater); and (c) how existing tools under the Planning Act can appropriately address greenlands.
- (3) As greenlands serve a variety of functions, the provincial resource based ministries review their management and land stewardship programs to ensure that they are more widely ecologically based rather than based primarily on economic yield or being singular in purpose.
- (4) The Province prepare a Greater Toronto Area Greenlands policy statement pursuant to section (3) of the Planning Act.

The overall thrust of the policy statement would be to limit uses to those which would not reduce the attributes of greenlands.

With particular reference to valleys and watercourses, they should be left in as natural a state as possible. Thus, various uses, including some types of intensive recreational endeavours, would be limited.

To help maintain the integrity of such areas as valleys and watercourses, and to assist in visually separating such areas from adjacent development, the establishment of riparian (natural) buffer zones of at least 10 - 15 m (33 - 50 ft) would be promoted.

The policy statement would stress the significance of nodes, such as municipal parks, and of pathways and corridors in linking regional greenland systems. It would also stress the value of municipal parks and other areas in providing public access to valley systems.

Further, the policy statement would stress the need for more intensive and clustered forms of development, thereby maximizing the lands available for greenlands and other uses.

- (5) Due to the significance and sensitivity of the Oak Ridges Moraine Area, the increasing development pressure it is under, particularly for that section in the Towns of Richmond Hill and Aurora, and the increasing concerns about the types of development and how development occurs, the Province declare a general expression of provincial interest for the Oak Ridges Moraine Area, under section (2) of the Planning Act.

The objective of declaring provincial interest would be to provide the time required to conduct a comprehensive land use planning study of the Oak Ridges Moraine Area. In the interim, the Province would review all proposed official plan amendments and rezoning applications within the

Moraine Area. In the specific instances of the Towns of Richmond Hill and Aurora, the Province would also review plans of subdivision.

Where a proposed land use change has not adequately addressed the sensitivities of the Moraine Area or where a proposed land use change is considered premature prior to the completion of the comprehensive land use planning study, the Minister of Municipal Affairs could make a specific statutory declaration of provincial interest, which would result in the matter going to the Ontario Municipal Board and Cabinet making the final decision, or make use of other powers, as provided for under the Planning Act.

A two year comprehensive planning study of the Oak Ridges Moraine Area would be coordinated by the Province and would include upper and lower tier municipalities, conservation authorities and other interested groups.

The overall intent of the study would be a more consistent treatment of development within the Moraine Area from one municipality to the next. The study would examine the types of land uses acceptable or not acceptable within the Moraine Area and the types of background studies and controls that would be appropriate to help safeguard the sensitivity of the area.

- (6) Through the official plan process, regional municipalities more clearly establish development, greenlands, and rural envelopes.

Development envelopes could be broken down into urban and near urban areas.

Regional municipalities need not designate specific land uses within each envelope. This would remain the responsibility of the local municipalities. However, regional municipalities would be responsible for assessing the overall implications of each envelope on a region wide basis from environmental, social and economic perspectives. The limits of the envelopes could not be modified for at least a five year period and then could only be modified as part of a regional municipality's overall review of its official plan.

With regards to the greenlands envelopes, each regional municipality would prepare a regional greenlands action plan to assist in implementation.

Each respective regional municipality would fine-tune the appropriate sections of a Greater Toronto Area Greenlands Strategy and augment it with input from the local conservation authorities and local municipalities.

The action plans would also concentrate on linking local park systems to regional greenlands systems through the most appropriate series of pathways and lateral connectors.

Upon completion of the respective action plans, 3 - 5 year implementation packages would be prepared, identifying which public body or group was responsible for what aspects.

- (7) To minimize the length of time between when a site is prepared for development and development actually commences, amendments to the Planning Act be made such that site preparation, eg. removal of vegetation, stockpiling of top soil, etc., cannot occur until the necessary development approvals or draft approvals have been obtained.

Amendments to the Planning Act also be made such that valley lands may be dedicated to the local municipality, in addition to lands dedicated for park purposes.

- (8) To fill the gap between the definition of development under the Planning Act and the specific hazard orientation of a conservation authority's regulation, amendments be made to the Conservation Authorities Act such that the regulatory powers under section (28) of the Act are expanded so that the placing or dumping of fill, the location of buildings and structures and the alteration of a waterway, anywhere in a valley system, can be regulated from a conservation/protection aspect as well as a hazard aspect.

Also, with the view to clarifying responsibility, the Minister of Natural Resources investigate any possible duplication of responsibilities between a conservation authority's regulation and the application of the Lakes and Rivers Improvement Act.

- (9) As part of its responsibility in issuing water taking permits under the Ontario Water Resources Act, the Ministry of the Environment investigate ways of undertaking studies such that the overall extent of the water resources of a watershed or aquifer system can be assessed. After which, a water budget could be determined for all the various uses, present and future, which would include an analysis of the amount available for water taking purposes.

The Ministry of the Environment undertake research into more efficient septic system designs and materials for use in areas with rapidly draining soils. This research could also examine communal type septic systems servicing 2 or more dwellings, thus potentially reducing the present space requirements for estate residential lots.

- (10) The Province establish a 5 year, \$100 million Greater Toronto Area greenlands acquisition program. The program to be set up on a matching grant basis with half the funds provided by the Province and the other half by local or interest groups, other government bodies, the private sector, etc.

While recognized that total reliance on acquisition to secure greenlands is not feasible in general, acquisition would only be considered where a site was threatened and other means to secure it had failed or where the site would provide for public access and other means to secure the land where not viable.

- (11) The guidance and monitoring required to assist in the implementation of a Greater Toronto Area Greenlands Strategy be provided through a coordinating body.

A new level of government or a new public body need not be created.

Representation on the coordinating body would include the Province, regional and local municipalities, and local conservation authorities.

As greenlands form the framework within which urban development can occur, consideration could be given to having the coordinating body responsible for overseeing the implementation of the Greater Toronto Area Greenlands Strategy linked with the body responsible for overseeing the implementation of the Greater Toronto Area Urban Structure Strategy.

- (12) The existing wording of the Trees Act be reviewed to determine if the focus could include other factors, more environmental in nature, as well as wood production.

To reduce the number of instances where wood lots are eliminated without the knowledge of local municipalities and thus the opportunity to explore other avenues to achieve what is desired, amendments be made to the Trees Act so that trees cannot be cut without the prior knowledge of the municipality. Notwithstanding this proposed amendment, minimum area size provisions and exemptions, such as cutting for personal use, as presently defined in the Act, should be retained.

Also, amendments be made to the Act to include the power to issue stop work orders and to increase the size of penalties for the contravention of a by-law passed under the Act.

- (13) As a general approach to reducing the amount of land that is developed, as opposed to reducing the amount of development all levels of government be encouraged to investigate and promote more compact urban forms (ie. intensive versus extensive forms of development). Concepts such as cluster development and more creative layouts sensitive to the surrounding landscape should be explored.

To help facilitate moves in this direction, the Province, through the Ministries of Municipal Affairs, Housing, Natural Resources and the Environment, would research the matter and prepare a guideline document.

- (14) The Province establish a Greater Toronto Area Greenlands Foundation to assist in giving a more coordinated focus to greenlands and to provide a means for public/private partnerships to protect greenlands.

The Foundation would be responsible for the administration of provincial acquisition funds on a matching grant basis. Local interest groups, other public bodies, or the private sector would be responsible for raising the remaining funds.

The Foundation would actively encourage the formation of an Oak Ridges Moraine Conservation Land Trust or other types of management bodies.

Further, the Foundation would be charged with exploring landowner incentives including recognition awards, the expansion of the Conservation Land Tax Rebate Program to include all lands identified as regional greenlands, greater availability or use of personal income tax deductions for land bequests or easements, the transfer and/or sale of property development rights, etc.

- (15) More formalized public involvement in securing, managing and enhancing greenlands is to be encouraged.

In particular, it is strongly encouraged that regional municipalities give consideration to establishing regionally based Ecological and Environmental Advisory Committees as exist in areas such as Halton, Waterloo and Niagara.

Such groups could assist Regional Councils on a range of environmental matters, including greenlands.

Also, conservation authorities are to be encouraged to establish working groups to assist in major endeavours such as the preparation of watershed management strategies.

- (16) The implementation of a Greater Toronto Area Greenlands Strategy will take the collective effort of many different bodies and groups. To this end, local groups and special interest groups, as well as government bodies, are to be encouraged to assist in various ways, including informing and educating the public on the significance of greenlands in the Greater Toronto Area.

Comments on this greenlands document are encouraged.

The Ministry of Natural Resources has been requested to coordinate all comments. It would be appreciated if written comments could be forwarded by November 5, 1990 to:

Regional Director
Central Region
Ministry of Natural Resources
R.R. #2
820 Yonge Street South
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L4G 3G8

For further information, please contact the Ministry of Natural Resources (Central Region) at (416) 727-2400.

Copies of the full text of the report and the four background studies (Identification of a Regional Greenlands System, Land Use Planning Controls, The Hydrogeological Significance of the Oak Ridges Moraine, and Land Stewardship Options) can be viewed at the main branch of your municipal library or obtained at the Ontario Government Bookstore, 880 Bay Street, Toronto (326-5300 or 1-800-668-9938).